

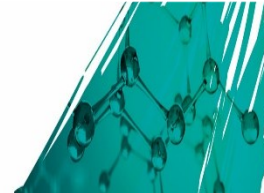


BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Subsidiary Diploma in Applied Science Pearson BTEC International Level 3 Foundation Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Applied Science Pearson BTEC International Level 3 Diploma in Biomedical Science Pearson BTEC International Level 3 Extended Diploma in Applied Science Pearson BTEC International Level 3 Extended Diploma in Biomedical Science Pearson BTEC International Level 3 Extended Diploma in Environmental Science
Unit number and title	Unit 12: Human Regulation and Reproduction
Learning aim	A: Understand the interrelationship and nervous control of the cardiovascular and respiratory systems
Assignment title	Regulation of the cardiovascular and respiratory systems
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	In normal health, the cardiovascular and respiratory systems work in an efficient, unified manner to pump oxygenated blood to all parts of the body. The Autonomic Nervous System (ANS) is the part of the nervous system that regulates internal body functions such as the heart beat and breathing that are outside of our voluntary control. When these systems malfunction, the functions of the cardiovascular and respiratory are also impaired. You are completing a clinical work experience placement where you will be shadowing the work of an ECG Technician and a Respiratory Nurse Specialist within a hospital out-patient's clinic. Your mentor requires you to produce an illustrated report to demonstrate your understanding of how diseases that disrupt the normal functioning of the nervous system, can lead to impairment of the cardiovascular and respiratory functions.
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Task	The ANS is divided into the sympathetic and parasympathetic nervous systems. Any disorder that disrupts these systems can lead to the failure of normal respiratory and cardiac functions. Produce an illustrated report which: Assesses and explains how the coordination and normal functioning of the respiratory and cardiovascular systems can be impaired by two specific neurological diseases. Include detail of how nerve impulses are initiated, coordinated and transmitted in the sympathetic and parasympathetic nervous systems and how disease processes can disrupt these pathways. Consider the role of chemoreceptors and baroreceptors in
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	detecting and responding to changes in the internal environment. Your assessment and explanation of two diseases related to the cardiovascular and respiratory systems must explain the physiological processes that are affected by each disease so include: An illustrated flow-chart describing the organisation and basic structure and function of the nervous system. Sensory and motor neurons and their role in transmitting information for involuntary control of heart rate and ventilation must be described.
Checklist of evidence required	A report that includes: - An assessment and explanation of how the coordination and normal functioning of the respiratory and cardiovascular systems can be impaired by two specific neurological diseases. - An explanation of how nerve impulses are initiated, coordinated and transmitted in the sympathetic and parasympathetic nervous systems and how disease processes can disrupt these pathways. - An illustrated flowchart describing the organisation and functions of the nervous system in relation to cardiovascular and respiratory functioning.
Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria, you must show that you are able to:
A.D1	Assess the role of the nervous system in coordinating the cardiovascular and respiratory systems
A.M1	Explain how nervous impulses are initiated, transmitted and coordinated in the control of the cardiovascular and respiratory systems
A.P1	Describe the organisation and function of the nervous system in relation to cardiovascular and respiratory requirements
Sources of information to support you with this Assignment	http://www.cliffsnotes.com/study-guides/anatomy-and-physiology/the-respiratory-system/control-of-respiration http://health.howstuffworks.com/human-body/systems/respiratory/lung3.htm http://www.livescience.com/22665-nervous-system.html http://www.cliffsnotes.com/study-guides/anatomy-and-physiology/nervous-tissue/transmission-of-nerve-impulses http://www.medbullets.com/step1-cardiovascular/8022/baroreceptors-and-chemoreceptors https://www.boundless.com/physiology/textbooks/boundless-anatomy-and-physiology-textbook/the-central-nervous-system-cns-12/parts-of-the-brain-stem-117/functions-of-the-brain-stem-637-6728/